

Take Cover!

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Insects are a disease-propelling, performance-degrading enemy force our Soldiers must battle every day. Vector-borne diseases are numerous in Afghanistan, and a Soldier can be exposed to malaria, leishmaniasis, West Nile virus, scrub typhus and sand fly fever. Let's take a look at a few of these diseases, as well as several measures that can keep you from becoming a casualty.

MALARIA

Malaria has a variable attack rate in Afghanistan, infecting up to 11 to 50 percent of Soldiers not taking protective countermeasures. The disease is passed to humans from the bite of an infected female Anopheles mosquito. Transmission occurs rapidly, with overt symptoms—including high fevers, shaking chills, sweats, headaches and muscle and joint pain—occurring 10 days to four weeks later. Other nonspecific symptoms such as nausea, vomiting and stomach pain are easily misrepresented as other ailments. The vivax form of malaria may lay dormant for one year and requires specific preventive treatments, which will be discussed later in this article.

LEISHMANIASIS

Leishmaniasis is transmitted by the parasite-carrying Phlebotomus species of sand fly. The highest occurrence of cutaneous leishmaniasis in the world has been in Kabul, Afghanistan, with an estimated 67,500 to 200,000 cases each year. The sand fly is only about one-third the size of a typical mosquito and acquires its victim without a sound. Its bite degrades into an open, ulcerated, slow-healing sore that lasts for months, forming a scar. Whereas cutaneous leishmaniasis is a locally limited parasitic infestation, visceral leishmaniasis, a severe systemic disease, is less prevalent in Afghanistan.

WEST NILE VIRUS

The mosquito transmission rate of West Nile virus is variable, which means not all victims demonstrate symptoms. Symptoms, including fever, malaise and headache, typically appear within three to 14 days of being attacked and persist for two to seven days. The virus can cause a more serious brain infection, aseptic meningitis or encephalitis. A Soldier with meningitis could experience sudden high fever and headache, stiff neck, tremors, disorientation and coma. Meningitis or encephalitis requires prompt recognition and treatment.

"As of 24 September 2006, the Army has 12 confirmed cases of malaria in the northeast region of Afghanistan. One crew made a precautionary landing in the elements at night and now one pilot and his door gunner have contracted malaria and are currently being treated."
--LTC Piantanida

PREVENTION

Self-protective measures start with understanding the vector insect attack patterns. The enemy's peak attack times are between dusk and dawn from May through November.

Malaria's highest attack rates occur at elevations below 2,000 meters. The optimum temperature range for mosquito vector and parasite development is 68 to 86 F.

Mosquitoes need water to breed and grow, so don't give them a chance. Get rid of places where water collects, reducing puddle formation. Empty anything that holds standing water—old tires, barrels and buckets.

Statistics tell us the most effective mosquito defense mechanism available to Soldiers includes the wearing of a Permethrin-treated Advanced Combat Uniform and the application of DEET. Soldiers should consider treating their physical training uniforms with Permethrin. However, aviation Nomex® should NOT be treated with Permethrin since it reduces the Nomex® flammable protective properties.

Frequent applications of DEET ensures continuous protection. Laboratory testing shows the military DEET lotion provides protection for 10 hours in a hot, dry environment. When applying both DEET and sunscreen, apply the sunscreen approximately 30 minutes to one hour before applying the DEET so the sunscreen has time to bind to the skin. Finally, wear your sleeves down, your undershirt tucked into your pants and pant legs tucked into your boots. By minimizing exposed skin and applying insect repellent, attack rates are greatly reduced. For other protective measures, visit the Washington State Department of Health's Web site at <http://www.doh.wa.gov/ehp/ts/Zoo/WNV/larvicides/Bsphaericus.html>.

All Soldiers deployed to Afghanistan must take a scheduled dose of malaria prophylaxis. For flight status Soldiers, the preferred medication is a daily 100-mg dose of Doxycycline. Redeploying Soldiers must continue the Doxycycline for four weeks, adding Primaquine during the last two weeks. Primaquine defeats the dormant parasites from the vivax species. Unfortunately, there are no anti-leishmaniasis or West Nile virus medications or vaccines.

Remember, the enemies in Afghanistan also include the small vector-borne varieties that seek opportune moments to attack. Applying these valuable preventive measures will certainly outweigh the lost time from work, the cost of treating a disease and the agony it causes a Soldier and his family. Remember to always take cover!